

Application No. 10/797,425  
Response dated January 6, 2006  
to Office Action mailed October 18, 2005

### **REMARKS**

The Examiner has rejected claims 1-3, 5, 8 and 54 under 35 U.S.C. § 102(b) as being anticipated by Uejima et al. Claims 11, 26-27 and 55 are rejected under § 103 as being obvious over Uejima et al. Claims 12-14 and 25 are rejected under § 103 as being obvious over Uejima in view of Sagnes U.S. Patent No. 5,998,289.

The previous Restriction Requirement of Species A through E has been withdrawn, and pending claims are now restricted to Species 1 or Species 3. Applicants confirm the election of Species 1 without traverse.

New claims 56 and 57 are added herein. Claim 56 is believed to be generic with respect to Species 1 and 3, and thus read on Species 1. New claim 57 reads on Species 1.

The Examiner has objected to claims 13, 14 and 25 for informalities. Specifically, claims 13 and 14 are objected to for use of the term "or" and claim 25 is objected to because it is unclear which "forming" recited in claim 1 is referred to by "said forming" in claim 25. With respect to claims 13 and 14, the Examiner is referred to MPEP § 2173.05(h) where it is specifically stated that "alternative expressions using 'or' are acceptable, such as 'wherein R is A, B, C, or D.'" Use of the term "and" is required when the specific Markush language is used, namely, "selected from the group consisting of A, B and C." In claims 13 and 14, that specific Markush language is not being used, nor is it required to be used, and there is no ambiguity by the alternative expression in claims 13 and 14. Further, the Examiner is directed to SuperGuide Corp. v. DirecTV Enterprises, Inc. et al., 69 USPQ 2d 1865 (Fed. Cir. 2004), wherein the Federal

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Circuit addressed in Section IV.B. the phrase "at least one of a desired program start time, a desired program end time, a desired program service, and a desired program type," which has the basic form of "at least one of A, B, C, and D." The Federal Circuit found that the claim required at least one of A, at least one of B, at least one of C, and at least one of D. The Federal Circuit pointed out that the patentee used the term "and" to separate the categories of criteria, which connotes a conjunctive list. The Federal Circuit further rejected the idea that the patentee was precluded from using "or" in place of "and" as a result of PTO Rules, and found that PTO Rules do not preclude the use of alternatives. In view of the Federal Circuit's position in SuperGuide Corp v. DirecTV Enterprises Inc. et al., the claims were amended to use the permitted alternative expression "or" to make clear that Applicant does not intend for the claims to require at least one of each gas, which would be nonsensical, but rather, Applicant intends to recite one or any combination of the recited gases, which is properly expressed as "at least one of A, B, C, or D." There is no basis for concluding that the term "or" is an informality and/or a defect. Thus, the Examiner is respectfully requested to remove the objection. In the event that the Examiner chooses to maintain the objection, it is kindly requested that the Examiner point to the examination rules that support the Examiner's position.

With respect to claim 25, the claim from which it depends has been amended to specify a depositing step and a forming step rather than two forming steps, and claim 25 has been amended to refer to the depositing step. Therefore, there is no longer a lack of clarity, and it is respectfully requested that the objection to claim 25 be removed.

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With respect to the rejection of claims 1-3, 5, 8 and 54 under § 102(b) as being anticipated by Uejima et al., claim 1 has been amended herein to specify that a  $\text{Si}_x\text{Ge}_{1-x}$  layer is deposited so as to have a variable composition over at least a portion of the thickness thereof. The Uejima et al. article discloses fabricating a number of different structures, each deposited to have a SiGe layer with a constant Ge mole fraction. The SiGe layer is then subjected to S/D annealing. SIMS analysis reveals Ge diffusion into the poly-Si layer and into the a-Si layer after the annealing. This diffusion of Ge will necessarily create a variation in the composition of the SiGe layer, as a result of the annealing, but the variable composition is not provided by the depositing step itself. In contrast to the method disclosed by Uejima et al., the present invention reduces poly-depletion, i.e., Ge diffusion at the interfaces, by depositing the variable composition SiGe layer. It is further noted that the S/D annealing in Uejima et al. occurs after forming the Si cap layer, and because the SiGe layer was not deposited as a variable composition layer, the Ge diffusion or poly-depletion occurs at the interfaces. The present invention therefore addresses the very problem that is shown to exist by Uejima et al. Because Uejima et al. did not disclose depositing a  $\text{Si}_x\text{Ge}_{1-x}$  layer over the dielectric so as to have a variable composition over at least a portion of the thickness thereof, the reference cannot anticipate claim 1, as amended herein.

With respect to the rejection of claims 11, 26-27 and 55 as being obvious over the Uejima et al. article, there is no teaching or suggestion by Uejima et al. of depositing the  $\text{Si}_x\text{Ge}_{1-x}$  layer so as to have a variable composition, and such variable composition is only achieved during an annealing step carried out after forming the Si cap layer, which is a result that the present

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invention seeks to avoid or reduce. Absent a teaching or suggestion, there can be no *prima facie* case of obviousness, and therefore, it is respectfully requested that the rejection be withdrawn.

With respect to the rejection of claims 12-14 and 25 as being obvious over the Uejima et al. article in view of Sagnes, Sagnes also discloses depositing a  $\text{Si}_x\text{Ge}_{1-x}$  layer having a constant composition, i.e.,  $x$  does not vary in the as-deposited layer. Thus, the Sagnes patent does not provide the teaching or suggestion missing in the primary reference. Because the combination of references does not teach or suggest each element of the claim, there is no *prima facie* case of obviousness. It is therefore respectfully requested that the rejection be withdrawn.

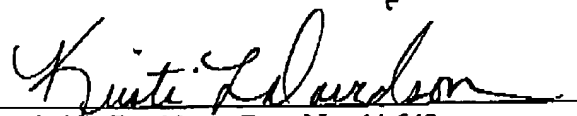
In view of the foregoing amendments and remarks given herein, Applicants respectfully believe this case is in condition for allowance and respectfully request allowance of the pending claims. If the Examiner believes any detailed language of the claims requires further discussion, the Examiner is respectfully asked to telephone the undersigned attorney so that the matter may be promptly resolved. The Examiner's prompt attention to this matter is appreciated.

Applicants are of the opinion that no additional fee is due as a result of this amendment. If any charges or credits are necessary to complete this communication, please apply them to Deposit Account No. 23-3000.

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Respectfully submitted,

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THANK YOU

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